

62-63, leaving for the Examiner's present consideration claims 12-16, 19, 30, 31, and 56-63.

Reconsideration of the rejections and consideration of the new claims is respectfully requested.

12. (Twice Amended) A method of operating a reactor which comprises a reactor chamber, an upper electrode, a heater that heats said upper electrode, and gas inlets and outlets, the method comprising:

C1 introducing process gas into said reactor chamber; and

heating the upper electrode with said heater to a temperature such that any material resulting from the reaction deposited on the surface of the upper electrode forms a stable layer of material.

13. (Once Amended) The method of claim 12 wherein said heating step includes:

heating the upper electrode to a temperature above a floating temperature that the upper electrode would otherwise attain during operation of the reactor without the heater.

14. (Twice Amended) The method of claim 12 wherein said heating step includes:

heating the upper electrode to a temperature between about 300°C and about 500°C.

15. The method of claim 12 wherein:

the method of operation of the reactor is an etch method.

16. The method of claim 12 wherein:

the method of operation of the reactor is a platinum etch method.

19. (Once Amended) The method of claim 16 wherein oxygen and chlorine are present in the reactor, the method includes:

C2 heating the upper electrode in order to cause deposits of oxygen and chlorine to de-absorb from the upper electrode in order to leave mostly platinum deposited on the electrode.

30. The method of claim 12 including a non-volatile material etch process.

31. (Previously Amended) The method of claim 12 including the step of etching one of the group consisting of titanium (Ti), titanium nitride (TiN), platinum (Pt), iridium (Ir), iridium oxide (IrO₂), barium strontium titanate (BST), strontium bismuth tantalate (SBT), strontium titanate (STO), ruthenium (Ru), ruthenium oxide (RuO₂), and lead zirconium titanate (PZT).

56. (Once Amended) The method of claim 12, wherein the reactor further comprises at least one side electrode, the method further comprising:

C3 heating the at least one side electrode such that any material resulting from the reaction deposited on the surface of the at least one side electrode forms a stable layer of material.

57. A method of operating a reactor which comprises a reactor chamber, an upper electrode, and a heater that heats the upper electrode, the method comprising:

introducing process gas into said reactor chamber;

providing power to said upper electrode in order to facilitate a reaction with said process gas and a workpiece contained in said reactor chamber; and

heating the upper electrode with said heater to a temperature such that any material resulting from the reaction that is deposited on the surface of the upper electrode forms a stable layer of material.

58. (Once Amended) A method for etching a workpiece in a reactor chamber, comprising:

C4 etching a workpiece in the reactor chamber; and

heating an upper electrode and at least one upper surface in the reactor chamber during the etch such that etch materials deposited on the upper electrode and at least one upper surface form a stable layer of material that does not flake off onto the workpiece.

59. (Once Amended) A method according to claim 58, wherein the step of heating includes heating an upper surface selected from side electrodes, electrode shields, and walls of the reactor.

60. (Once Amended) A method according to claim 58, wherein the step of heating an upper surface includes heating the upper surface until any gas collected on the upper surface de-absorbs from the upper surface.

61. (Once Amended) A method according to claim 58, wherein the step of heating an upper surface includes heating the upper surface until any gas collected on the upper surface boils off the upper surface.

62. (New) The method of claim 12, wherein the reactor further comprises an electrode shield, the method further comprising:

heating the electrode shield such that any material resulting from the reaction deposited on the surface of the electrode shield forms a stable layer of material.

63. (New) The method of claim 12, further comprising:

heating a wall of the reactor such that any material resulting from the reaction deposited on the wall of the reactor forms a stable layer of material.
